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EXAMINER	
NEWAY, SAMUEL G	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/684,135	GILLICK ET AL.	
	Examiner	Art Unit	
	Samuel G. Neway	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-43 and 47-60* is/are rejected.

7)☐ Claim(s) *5,11 and 44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is responsive to the Application filed on 10 October 2002.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 5, and 14 – 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Viikki et al. ("Speaker and Language –Independent Speech Recognition in Mobile Communication Systems", 2001 IEEE International Conference on Acoustics, Speech, and Signal Processing, May 2001).

Claim 1:

Viikki discloses a method of training acoustic models for use in phonetically spelled word models comprising:

-using a training pronunciation guesser to generate a phonetic spelling, each including a sequence of phonemes, from the text spelling of each of a set of acoustic training words ("pronunciation modeling scheme is applied to get the phoneme sequence ...", page 6, section 3, see also Figure 1 and related text) ;

-mapping sequences of sound associated with utterances of each of the training words against the corresponding sequence of phonemes defined by the phonetic spelling associated with the training word by the pronunciation guesser ("... HMMs are

trained on ... speech corpora ", page 7, section 3.1, see also Figure 1 and related text); and

-for each of a plurality of said phonemes, using the sounds mapped against a given phoneme in one or more of said phonetic spellings to develop at least one acoustic phoneme model for the given phoneme (Figure 1 and related text).

Claim 2:

Viikki discloses a method as in claim 1 further including using the acoustic phoneme models in speech recognition performed against acoustic word models, where such a word model of a given word is composed of a sequence of the acoustic phoneme models corresponding to a phonetic spelling generated for the given word by a recognition pronunciation guesser (page 7, section 4).

Claim 3:

Viikki discloses a method as in claim 1 wherein 5% or more of the occurrences of vowel phonemes placed in the phonetic spellings of the acoustic training words by the training pronunciation guesser are phonetic spelling errors (Figure 2 and related text).

Claim 4:

Viikki discloses a method as in claim 3:

-further including using the acoustic phoneme models in speech recognition performed against acoustic word models of words, where the acoustic word model of a given word is composed of a sequence of the acoustic phoneme models corresponding to a phonetic spelling generated for the given word by a recognition pronunciation guesser (page 7, section 4); and

-wherein the recognition pronunciation guesser would make 50% or more of the same phonetic spelling errors made by the training pronunciation guesser in the acoustic training words if it were to generate phonetic spellings for the set of acoustic training words (page 7, section 4.3. Note that the training and recognition pronunciation guesser are the same).

Claim 5:

Viikki discloses a method as in claim 4 wherein the recognition and acoustic training pronunciation guessers are the same pronunciation guesser (page 7, section 4.3).

Claims 14 – 15:

Viikki discloses a method as in claim 1 wherein a majority of said acoustic phoneme models are monophone models in which a given acoustic model represents the sounds of a given phoneme in all the phonetic spelling contexts in which it can occur in said phonetic spellings (page 7, section 3.1).

Claim 16:

Viikki discloses a method as in claim 1 wherein the acoustic training words are English words (section 4).

Claim 17:

Viikki discloses a method as in claim 1 wherein the pronunciation guesser is trained on a representative distribution of names from US phone books ("speech corpora", page 7, section 3.1).

Claim 18:

Viikki discloses a method as in claim 17 wherein the training pronunciation guesser is sufficiently errorful that 5% or more of the occurrences of vowel phonemes the training pronunciation guesser would placed in the phonetic spellings of such a set of names, if generating their phonetic spellings, would be phonetic spelling errors (Figure 2 and related text).

Claim 19:

Viikki discloses a method of making a speech recognition enabled computing system comprising:

-training a set of acoustic phoneme models by: --using a training pronunciation guesser to generate a phonetic spelling, each including a sequence of phonemes, from the text spelling of each of a set of acoustic training words ("pronunciation modeling scheme is applied to get the phoneme sequence ...", page 6, section 3, see also Figure 1 and related text); --mapping sequences of sound associated with one or more utterances of each of the training words against the sequence of phonemes defined by the phonetic spelling associated with the training word by the pronunciation guesser ("... HMMs are trained on ... speech corpora ", page 7, section 3.1, see also Figure 1 and related text); and

--for each of a plurality of said phonemes, using the sounds mapped against a given phoneme in one or more of said phonetic spellings to develop at least one acoustic phoneme model for the given phoneme (Figure 1 and related text); and -storing in machine readable memory of the computing system being made the following:

--recognition pronunciation guessing programming for generating a phonetic spelling,

comprised of a sequence of phonemes, from a textual spelling of a word (Figure 1 and related text);

--said set of acoustic phoneme models, including at least one for modeling the speech sounds associated with each phoneme used in the phonetic spellings generated by the recognition pronunciation guessing programming (page 7, section 4);

--speech recognition programming for recognizing an utterance by scoring the match between a sequence of the utterance's speech sounds and a sequence of said acoustic phoneme models associated with the phonetic spelling of each of a plurality of words (page 7, section 4); and

--programming for enabling the speech recognition programming to perform recognition against a sequence of said acoustic phoneme models associated with a phonetic spelling generated by the pronunciation guessing programming (page 7, section 4);

-wherein:

--5% or more of the occurrences of vowel phonemes placed in the phonetic spellings of the acoustic training words by the training pronunciation guesser are phonetic spelling errors (Figure2 and related text); and --the recognition pronunciation guessing programming would make 50% or more of the same phonetic spelling errors as are made by the training pronunciation guesser when generating phonetic spellings for the acoustic training words(page 7, section 4.3. Note that the training and recognition pronunciation guesser are the same).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 6 – 10, and 20 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viikki in view of ("Sensory Introduces Voice Recognition S/W Solution for Embedded DSPs ", http://www.sensoryinc.com/html/company/pr99_7.html, August 1999) referred as Sensory hereinafter.

Claim 6:

Viikki discloses a method as in claim 4 but Viikki does not explicitly discloses wherein the words whose guessed phonetic spellings are used in the speech recognition are peoples' names.

In a similar system, Sensory discloses recognizing peoples' names as claimed in the instant claim ("initiating the call by name", page 1, paragraph 3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to recognize peoples' name in order to initiate "the call by name" (Sensory, page 1, paragraph 3).

Claim 7:

Viikki and Sensory disclose a method as in claim 6, Sensory further discloses wherein the speech recognition is used in telephone name dialing in which the speech

recognition of a name is used to select a telephone number associated with that name that can be automatically dialed ("initiating the call by name", page 1, paragraph 3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to recognize peoples' name in order to initiate "the call by name" (Sensory, page 1, paragraph 3).

Claim 8:

Viikki and Sensory disclose a method as in claim 7, Viikki further discloses wherein the speech recognition and name dialing are performed on a cellphone ("mobile phones", page 5, section 1).

Claim 9:

Viikki and Sensory disclose a method as in claim 8, Sensory further discloses:
-storing on said cellphone, for each of a plurality of commands words used to control the cellphone, a phonetic spelling of the command that comes from a source more accurate than the recognition pronunciation guesser ("Word Spotting", page 1, paragraph 4); and
-performing speech recognition on a given utterance by matching it against acoustic word models, each composed of a sequence of said acoustic phoneme models corresponding to one of said stored phonetic spellings of a command word; and
-responding to an indication by the speech recognition that the given utterance corresponds to the phonetic spelling of a given one of the command words by causing the cellphone to perform the given command ("Word Spotting", page 1, paragraph 4).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to recognize commands in order to operate the cell phone "hands-free" (Sensory, page 1, paragraph 3).

Claim 10:

Viikki and Sensory disclose a method as in claim 8, Viikki further discloses: --responding to the entry of a name by a user by having the recognition pronunciation guesser generate a phonetic spelling for the user-entered name; and -using the phonetic spelling of the user-entered name in the speech recognition (Figure 1 and related text).

Claims 20 – 25:

Claims 20 – 25 are similar in scope and content to claims 6 – 10 and are rejected with the same rationale.

6. Claims 12 – 13, 26 – 39, and 47 – 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viikki in view of Baker et al. (USPN 6,092,044).

Claims 12 – 13:

Viikki discloses a method as in claim 3 further including training the training pronunciation guesser by:

-obtaining the following data for each of a plurality of said pronunciation-guesser training words:--a textual spelling for the word, comprised of a sequence of letters;

--a relatively reliable phonetic spelling for the word, comprised of a sequence of phonemes; and --a measure of the frequency with which the word occurs; and -using the data obtained for each of said pronunciation-guesser training words to train the

pronunciation guesser (Figure 1 and related text), including:

--for each pronunciation-guesser training word, mapping the sequence of letters of the training word's textual spelling against the sequence of phonemes of the relatively reliable phonetic spelling (Figure 1 and related text); and

--using the resulting letter-to-phoneme mappings to train the pronunciation guesser (Figure 1 and related text).

But Viikki does not explicitly disclose wherein the using of said letter-to-phoneme mappings includes varying the weight given to a given letter-to-phoneme mapping in the training of the pronunciation guesser as a function of the frequency measure of the word in which such a mapping occurs.

In a similar system for pronunciation generation in speech recognition, Baker discloses varying weights depending on a word's frequency measure as claimed in the instant claims ("Using a rules list that contains possible phonemes associated with letters and strings of letters, and their associated probabilities (frequencies of occurrence in the vocabulary), a constraint grammar containing a word list of possible phonetic spellings is created from the spelled word (step 1315)", col. 15, lines 60-65).

It would have been obvious to one with ordinary skill in the art at the time of the invention to use word frequencies as claimed in order to improve recognition.

Claim 26:

Viikki discloses a speech recognition system comprising:

-machine readable memory storing; --pronunciation guessing programming for generating a phonetic spelling, comprised of a sequence of phonemes, from a textual

spelling of a word; --a set of acoustic phoneme models, including at least one for modeling the speech sounds associated with each phoneme used in the phonetic spellings generated by the pronunciation guessing programming ; --speech recognition programming for recognizing an utterance by scoring the match between a sequence of the utterance's speech sounds and a sequence of said acoustic phoneme models associated with the phonetic spelling of each of a plurality of word models; and --programming for enabling the speech recognition programming to perform recognition against phonetic spellings generated by the pronunciation guessing programming (Figure 1 and related text);

But Viikki does not explicitly disclose

--each of said acoustic models represents a phoneme in a phonetic context;

--each of a plurality of said acoustic models is a blended acoustic model that represents a given phoneme in a given phonetic context as a distribution of sounds corresponding to utterances of the given phoneme and utterances of an associated set of one or more other phonemes; and

--over the plurality of blended acoustic models, the relative weight allocated, in a given acoustic model representing a given phoneme in a given phonetic context, between sounds of utterances of the given phoneme and each of the given phoneme's associated phonemes varies as a function of the frequency with which the pronunciation guesser places the given phoneme in a position in a phonetic spelling in the given phonetic context where the correct phoneme for the position is, respectively, the given phoneme and each of said associated phonemes.

Baker discloses the "active vocabulary 230 uses a pronunciation model in which each word is represented by a series of phonemes that comprise the phonetic spelling of the word. In particular, each phoneme is represented as a triphone that includes three nodes. A triphone is a context-dependent phoneme. For example, the triphone "abc" represents the phoneme "b" in the context of the phonemes "a" and "c", with the phoneme "b" being preceded by the phoneme "a" and followed by the phoneme "c"." (col. 5, line 66 to col. 6, line 7).

It would have been obvious to one with ordinary skill in the art at the time of the invention to use word frequencies as claimed in order to improve recognition.

Claims 27 – 30:

Claims 27 – 30 are similar in scope and content to claims 1 – 5, and 26 and are rejected with the same rationale.

Claim 31:

Viikki discloses a speech recognition system comprising:

-a pronunciation guesser for generating a phonetic spelling, comprised of a sequence of phonemes, from a textual spelling of a word; -machine readable memory storing a set of acoustic phoneme models, including at least one for modeling the speech sounds associated with each phoneme used in the phonetic spellings generated by the pronunciation guesser;-a speech recognizer for recognizing an utterance by scoring the match between a sequence of the utterance's speech sounds and a sequence of said acoustic phoneme models associated with the phonetic spelling of each of a plurality of word models; and -circuitry for enabling the speech recognizer to perform recognition

against phonetic spellings generated by the pronunciation guesser (Figure 1 and related text).

But Viikki does not explicitly disclose

--each of said acoustic models represents a phoneme in a phonetic context;

--each of a plurality of said acoustic models is a blended acoustic model that represents a given phoneme in a given phonetic context as a distribution of sounds corresponding to utterances of the given phoneme and utterances of an associated set of one or more other phonemes; and

--over the plurality of blended acoustic models, the relative weight allocated, in a given acoustic model representing a given phoneme in a given phonetic context, between sounds of utterances of the given phoneme and each of the given phoneme's associated phonemes varies as a function of the frequency with which the pronunciation guesser places the given phoneme in a position in a phonetic spelling in the given phonetic context where the correct phoneme for the position is, respectively, the given phoneme and each of said associated phonemes.

Baker discloses the "active vocabulary 230 uses a pronunciation model in which each word is represented by a series of phonemes that comprise the phonetic spelling of the word. In particular, each phoneme is represented as a triphone that includes three nodes. A triphone is a context-dependent phoneme. For example, the triphone "abc" represents the phoneme "b" in the context of the phonemes "a" and "c", with the phoneme "b" being preceded by the phoneme "a" and followed by the phoneme "c"." (col. 5, line 66 to col. 6, line 7).

It would have been obvious to one with ordinary skill in the art at the time of the invention to use word frequencies as claimed in order to improve recognition.

Claims 32 – 36:

Claims 32 – 36 are similar in scope and content to claims 1 – 5, and 31 and are rejected with the same rationale.

Claim 37:

Viikki discloses a speech recognition system comprising:

-training a set of acoustic phoneme models by: --using a training pronunciation guesser to generate a phonetic spelling, each including a sequence of phonemes, from the text spelling of each of a set of acoustic training words ("pronunciation modeling scheme is applied to get the phoneme sequence ...", page 6, section 3, see also Figure 1 and related text); --mapping sequences of sound associated with one or more utterances of each of the training words against the sequence of phonemes defined by the phonetic spelling associated with the training word by the pronunciation guesser ("... HMMs are trained on ... speech corpora ", page 7, section 3.1, see also Figure 1 and related text); and

--for each of a plurality of said phonemes, using the sounds mapped against a given phoneme in one or more of said phonetic spellings to develop at least one acoustic phoneme model for the given phoneme (Figure 1 and related text); and -storing in machine readable memory of the computing system being made the following:

--recognition pronunciation guessing programming for generating a phonetic spelling, comprised of a sequence of phonemes, from a textual spelling of a word (Figure 1 and

related text);

--said set of acoustic phoneme models, including at least one for modeling the speech sounds associated with each phoneme used in the phonetic spellings generated by the recognition pronunciation guessing programming (page 7, section 4);

--speech recognition programming for recognizing an utterance by scoring the match between a sequence of the utterance's speech sounds and a sequence of said acoustic phoneme models associated with the phonetic spelling of each of a plurality of words (page 7, section 4); and

--programming for enabling the speech recognition programming to perform recognition against a sequence of said acoustic phoneme models associated with a phonetic spelling generated by the pronunciation guessing programming (page 7, section 4);

-wherein:

--5% or more of the occurrences of vowel phonemes placed in the phonetic spellings of the acoustic training words by the training pronunciation guesser are phonetic spelling errors (Figure2 and related text); and --the recognition pronunciation guessing programming would make 50% or more of the same phonetic spelling errors as are made by the training pronunciation guesser when generating phonetic spellings for the acoustic training words(page 7, section 4.3. Note that the training and recognition pronunciation guesser are the same).

But Viikki does not explicitly disclose

--each of said acoustic models represents a phoneme in a phonetic context;

--each of a plurality of said acoustic models is a blended acoustic model that represents

a given phoneme in a given phonetic context as a distribution of sounds corresponding to utterances of the given phoneme and utterances of an associated set of one or more other phonemes; and

--over the plurality of blended acoustic models, the relative weight allocated, in a given acoustic model representing a given phoneme in a given phonetic context, between sounds of utterances of the given phoneme and each of the given phoneme's associated phonemes varies as a function of the frequency with which the pronunciation guesser places the given phoneme in a position in a phonetic spelling in the given phonetic context where the correct phoneme for the position is, respectively, the given phoneme and each of said associated phonemes.

Baker discloses the "active vocabulary 230 uses a pronunciation model in which each word is represented by a series of phonemes that comprise the phonetic spelling of the word. In particular, each phoneme is represented as a triphone that includes three nodes. A triphone is a context-dependent phoneme. For example, the triphone "abc" represents the phoneme "b" in the context of the phonemes "a" and "c", with the phoneme "b" being preceded by the phoneme "a" and followed by the phoneme "c"." (col. 5, line 66 to col. 6, line 7).

It would have been obvious to one with ordinary skill in the art at the time of the invention to use word frequencies as claimed in order to improve recognition.

Claims 38 – 39:

Claims 38 – 39 are similar in scope and content to claims 32 – 34 and are rejected with the same rationale.

Claims 47 – 52:

Claims 47 – 52 are similar in scope and content to claims 32 – 36 and are rejected with the same rationale.

Claims 53 – 60:

Claims 53 – 60 are similar in scope and content to claims 32 – 36 and are rejected with the same rationale.

7. Claims 40 – 43, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viikki in view of Baker and in further view of Sensory.

Claims 40 – 43:

Viikki and Baker disclose a system as in claim 37 but they do not explicitly disclose -enabling a user to enter the text spelling of a name into the system in association with an item upon which the system can perform a given function;

-responding to such a user's entry of a name into the system by causing the pronunciation guessing programming to generate a phonetic spelling from the text spelling of the entered name;

-responding to a user's utterance by having the speech recognition programming score the match between the sound of the utterance and sequences of said acoustic phoneme models corresponding to the phonetic spellings generated by the pronunciation guessing programming for each of one or more user entered names; and

-determining whether to perform the given function on the item associated with a given user-entered name as a function of the score produced by the speech recognition programming for the utterance against the given user-entered name.

Sensory discloses recognizing peoples' names as claimed in the instant claim ("initiating the call by name", page 1, paragraph 3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to recognize peoples' name in order to initiate "the call by name" (Sensory, page 1, paragraph 3).

Sensory further discloses wherein the speech recognition is used in telephone name dialing in which the speech recognition of a name is used to select a telephone number associated with that name that can be automatically dialed ("initiating the call by name", page 1, paragraph 3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to recognize peoples' name in order to initiate "the call by name" (Sensory, page 1, paragraph 3).

Claim 46:

Viikki, Baker, and Sensory disclose a system as in claim 40.

Sensory further discloses wherein the speech recognition is used in telephone name dialing in which the speech recognition of a name is used to select a telephone number associated with that name that can be automatically dialed ("initiating the call by name", page 1, paragraph 3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to recognize peoples' name in order to initiate "the call by name" (page 1, paragraph 3).

Allowable Subject Matter

8. Claims 11, and 44 – 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Molnar et al. (USPN 6,411,932) discloses an invention related to text-to-pronunciation systems and more particularly to rule-based learning of word pronunciations from training corpora or set of pronunciations.

Kuhn et al. (USPN 6,230,131)discloses a method for generating spelling-to-pronunciation decision tree.

Pershan et al. (USPN 6,744,861) discloses communications systems for providing voice dialing services.

Kuhn et al. (USPN 6,029,132) discloses an invention relating to a system for generating pronunciations of spelled words. The invention can be employed in a variety of different contexts, including speech recognition, speech synthesis and lexicography.

McAllister et al. (USPN 5,991,364) discloses communications networks that provide voice-activated dialing and more particularly to the use of speaker independent phoneme recognition to determine call routing.

Park (USPN 6,260,012) discloses a technique for improved speech recognition in a telephone, particularly a mobile telephone, such as for automatic hands-free dialing.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel G. Neway whose telephone number is 571-270-1058. The examiner can normally be reached on Monday - Friday 8:30AM - 5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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